REPORT DOCUMENTATION PAGE

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	Viewgraphs	

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	5c. PROGRAM ELEMENT NUMBER

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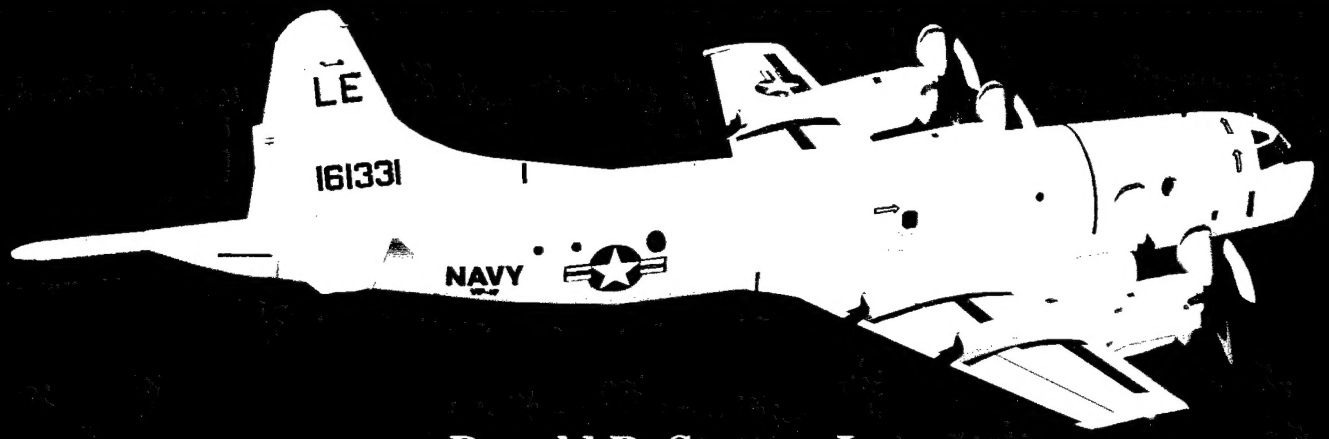
20001012 102

LARIAT

LOW-COST AIRBORNE RECONNAISSANCE IMAGERY ANALYSIS TOOL



Donald R. Statter, Jr.
Imagery Scientist
AIR 4.5.5.5
statterdr@navair.navy.mil
301-342-0043

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THE PULSE OF NAVAL AVIATION

RESEARCH & ENGINEERING

LARIAT

COMMERCIAL & GOVERNMENT OTS SOFTWARE

OpenELT Analyst	(PC)	Integrator (UNIX)
FalconView	(PC)	
ELT3500	(PC)	
Quad Companion	(PC)	
SAR ToolBox	(UNIX)	
PhotoEditor	(PC)	
PowerPoint	(PC)	

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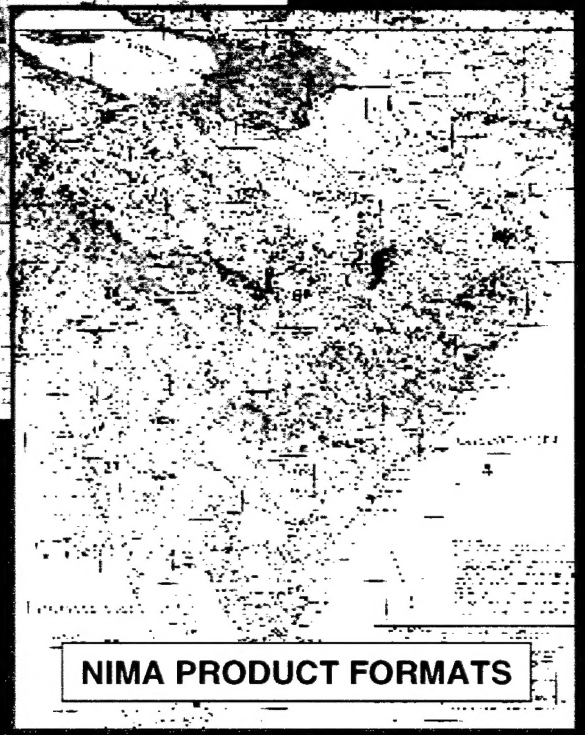
RESEARCH & ENGINEERING

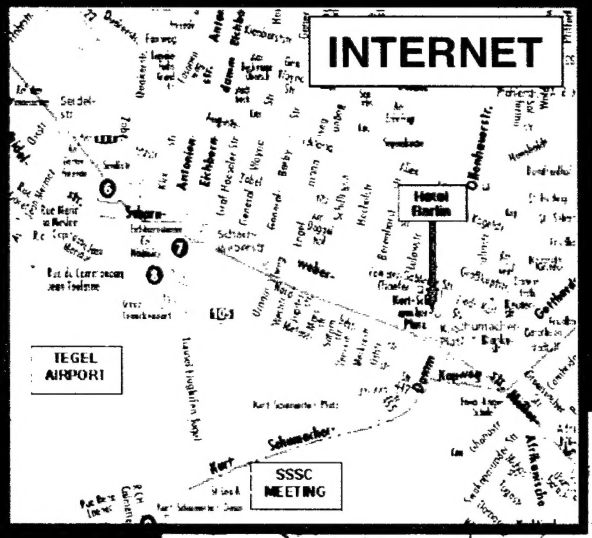
MAPS FROM ANY SOURCE

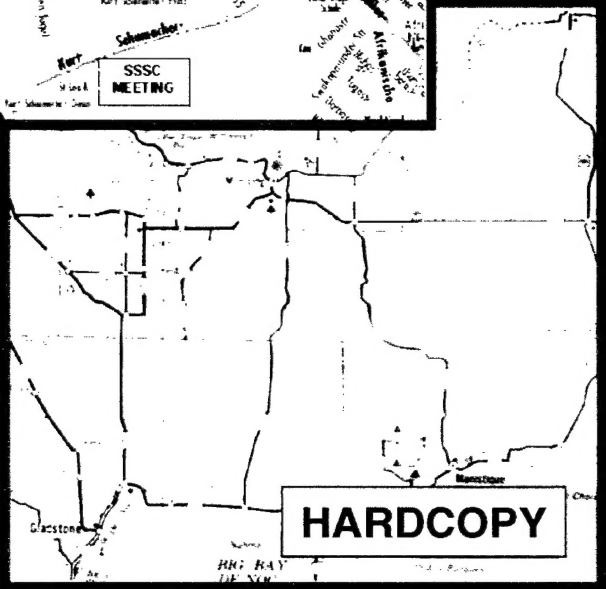
USGS QUADRANGLE MAPS



NIMA PRODUCT FORMATS

INTERNET





HARDCOPY

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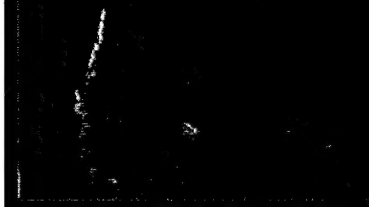
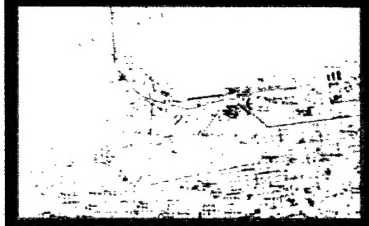
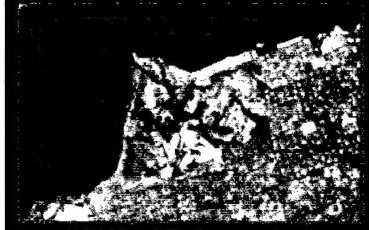
PRODUCT WORKFLOW



OPTECH PRECISION DEM



USGS TOPOGRAPHIC QUAD

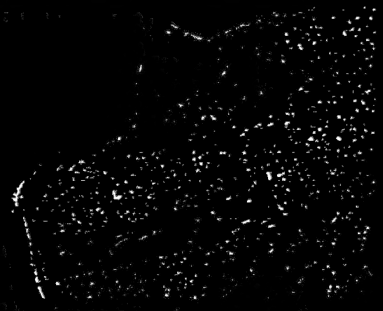


LANDSAT (RGB = 543)

LANDSAT (RGB = 321)

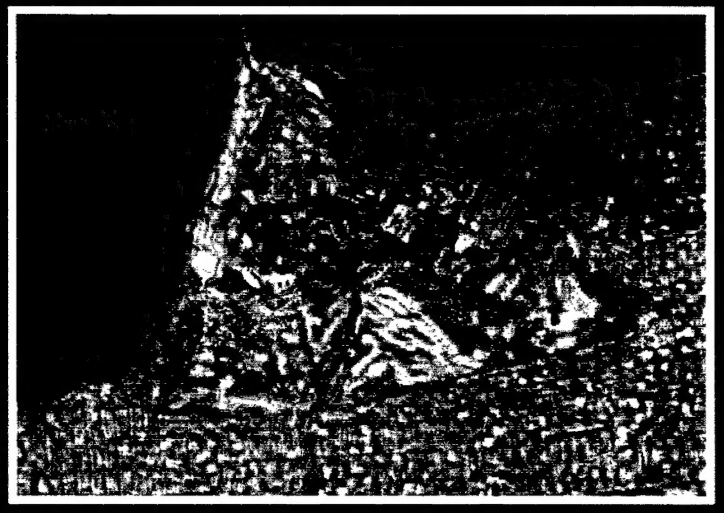
PDEM + TOPO MERGED

LANDSAT (543 + 321) MERGED



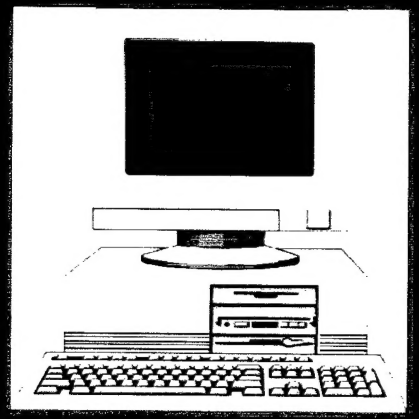
FUSION DATA TARGET PRODUCT

- PRECISION DEM
- TOPOGRAPHIC QUAD
- LANDSAT CHANNELS 543
- LANDSAT CHANNELS 321



FROM BEST AVAILABLE SOURCES

LARIAT - PREMISSION PLANNING



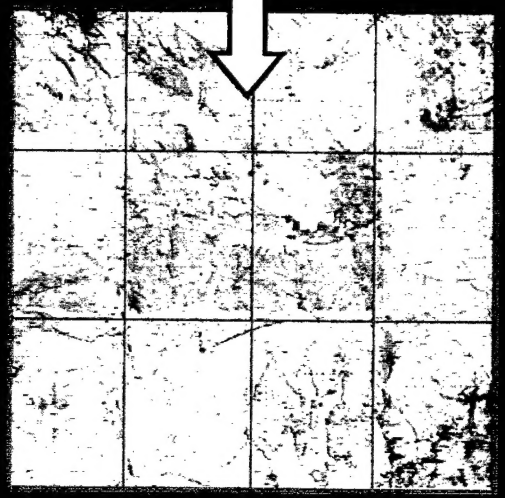
PC WORKSTATION PROCESSING

WINDOWS - PC

- 768 MB RAM
- PENTIUM II CPU
- 50+ GB DISC

FALCONVIEW or ELT3500

- MISSION PLANNING
- GEOGRAPHIC ANALYSIS
- DISTANCE & AREA MEASURE
- SUPPORT NP-3 SAR COLLECTION



400 SQ NM MOSAIC

QUAD COMPANION

- LARGE AREA MOSAICS
- FROM LARGE SCALE
- TOPOGRAPHIC MAPS

IMAGE GEOCODING

LATITUDE: 38°27'34"N
LONGITUDE: 76°02'45"W

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LARIAT

RESEARCH & ENGINEERING

MTOOL (MOSAIC TOOL)

FORMAT CONVERSION

TIF ⟶ PYRAMID

TIES IMAGE SEGMENTS TO STRIPS

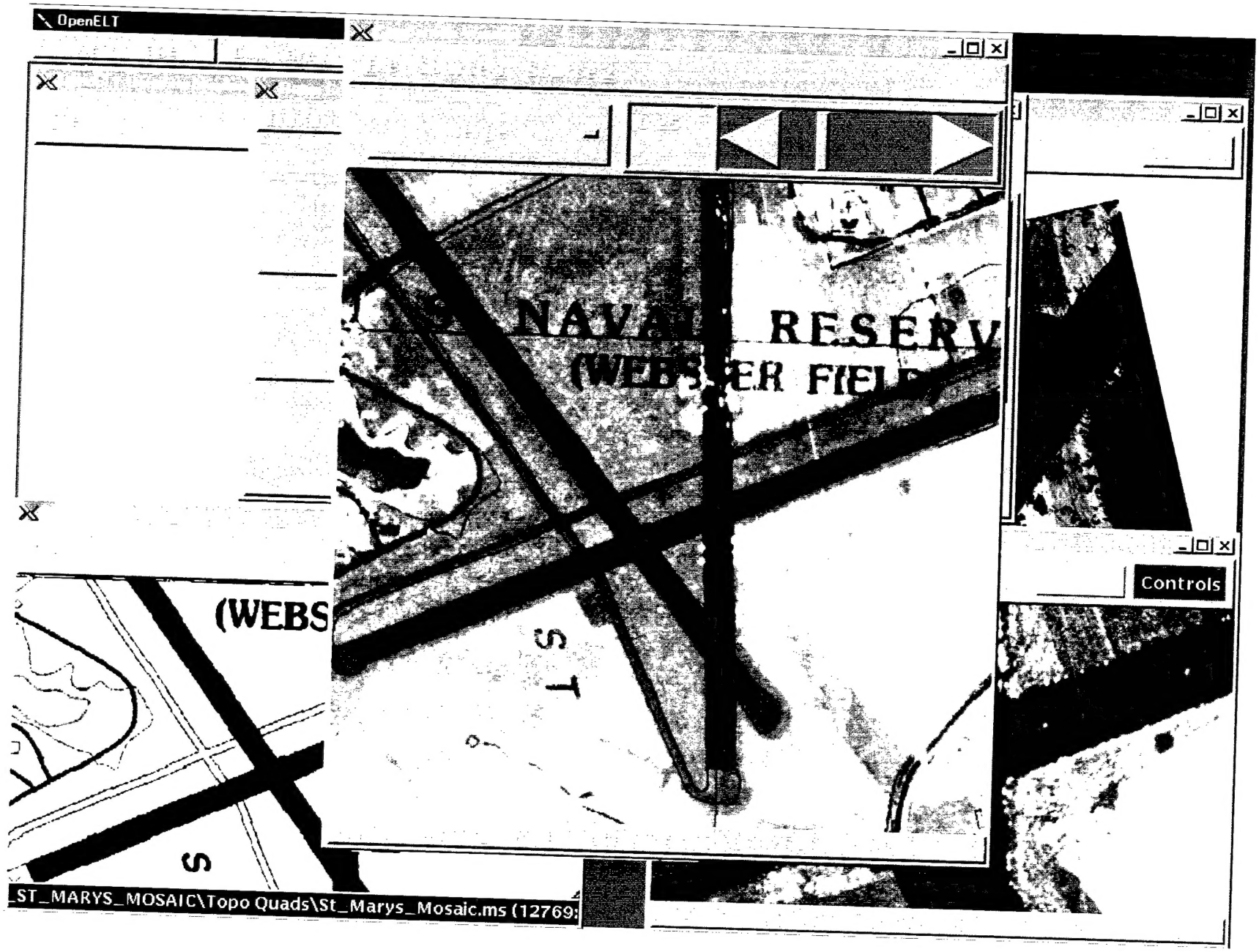
MOSAIC BUILDING

RECTIFICATION, ROTATION, SCALING AND SUPERPOSITION

SILICON GRAPHICS

UNIX WORKSTATION
1.0 G
180 M
36 G

WINDOWS NT4.0 SINCE MAY 2000


OpenELT
Controls
(WEBS
ST_MARYS_MOSAIC\Topo Quads\St_Marys_Mosaic.ms (12769:

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THE PULSE OF NAVAL AVIATION

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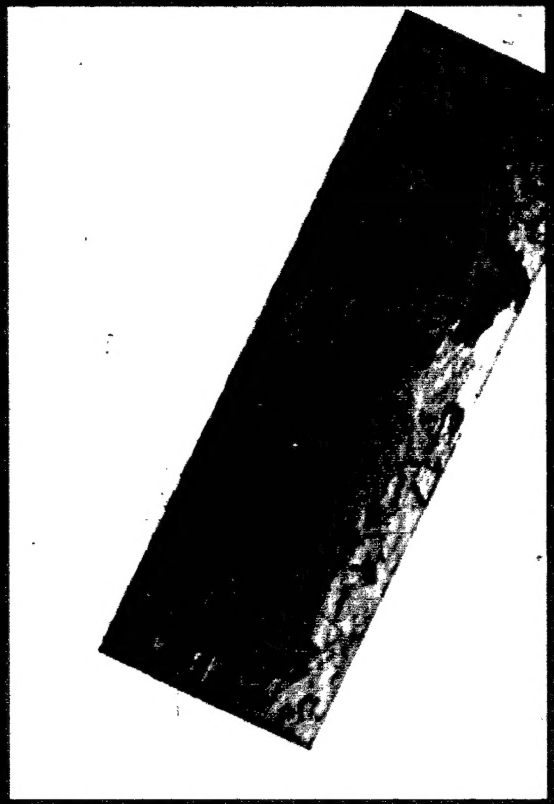
RESEARCH & ENGINEERING

RECTIFICATION, SCALING & ROTATION

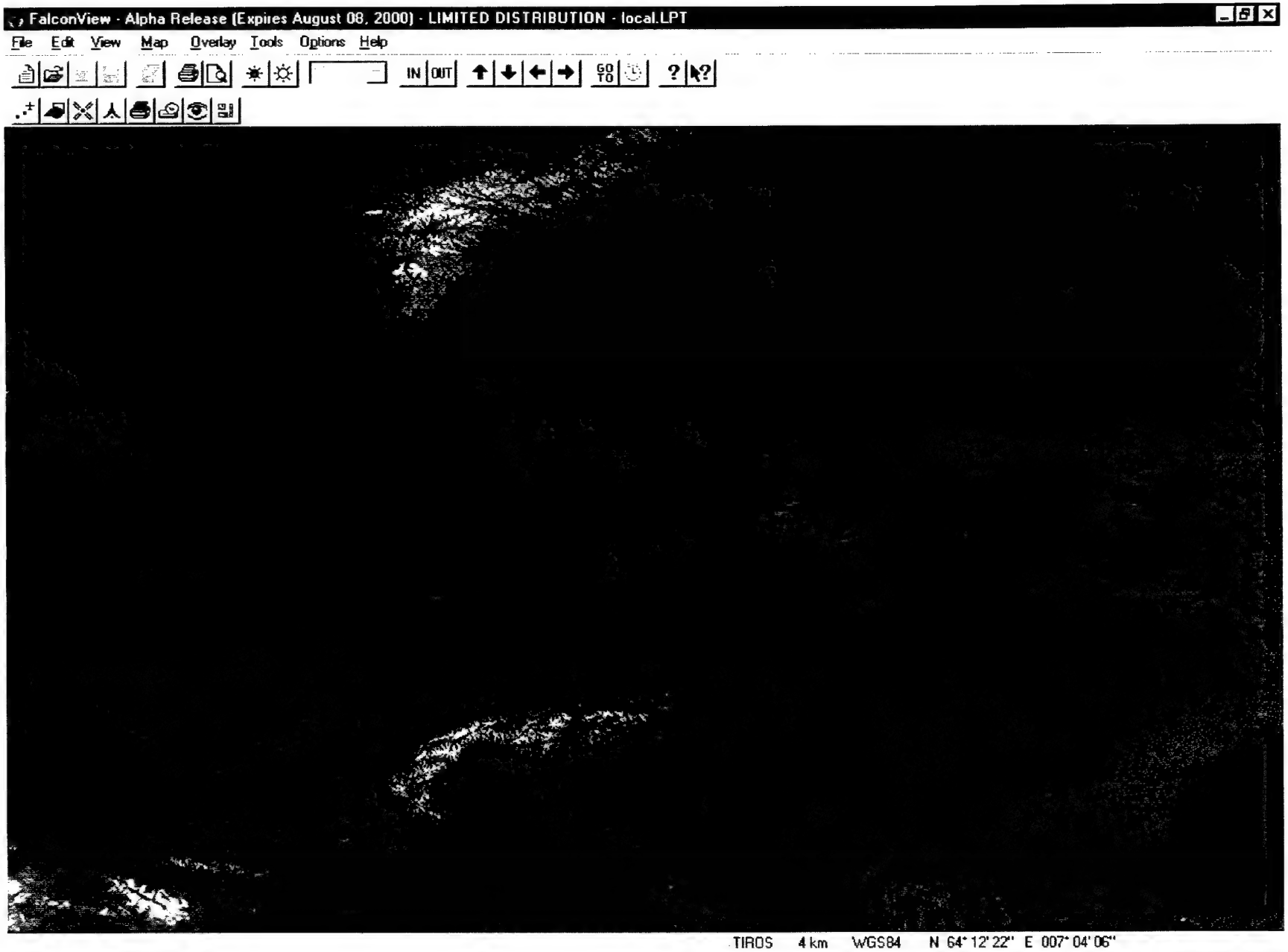


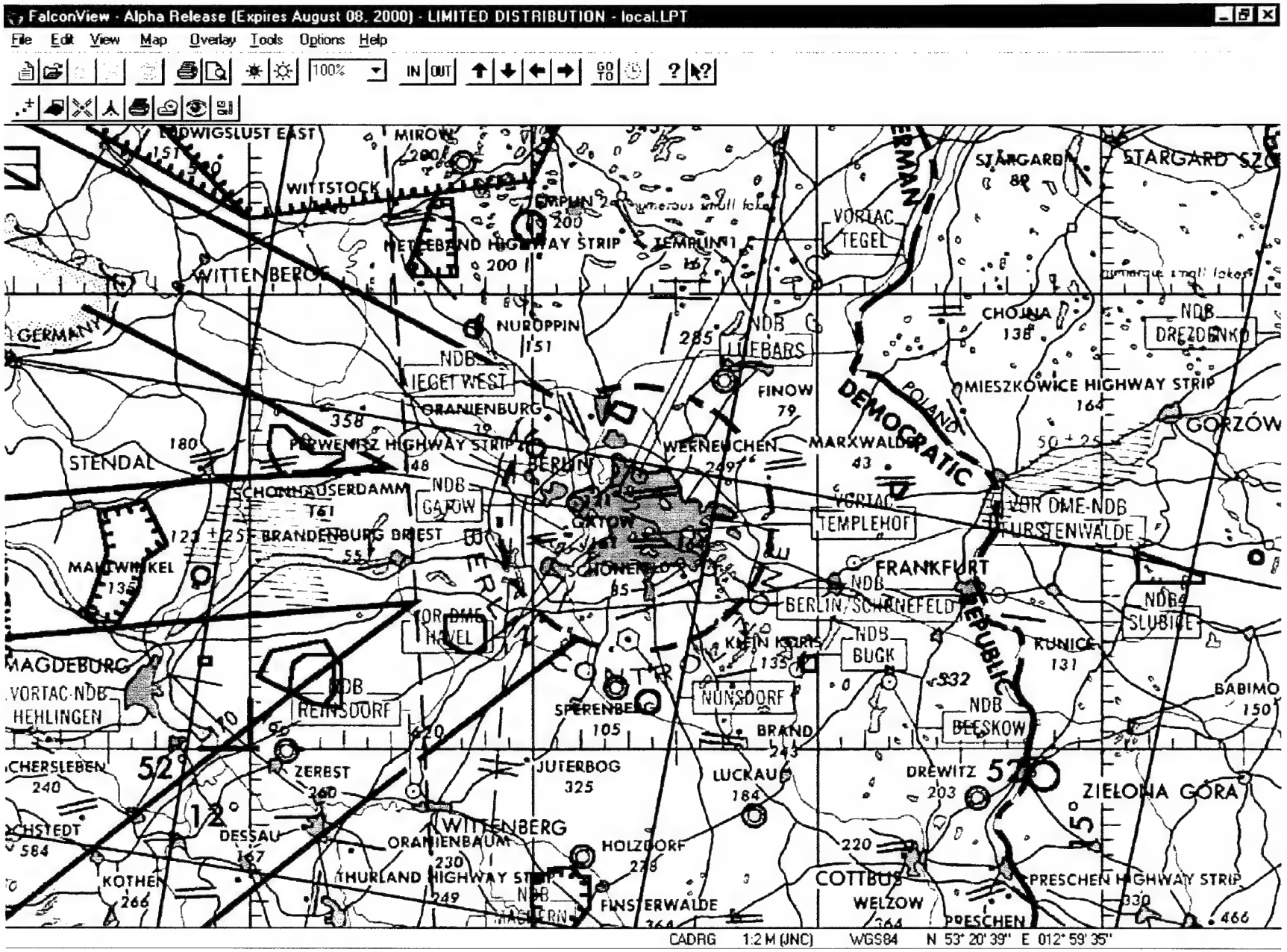
TERRAIN & CULTURE ANALYSIS

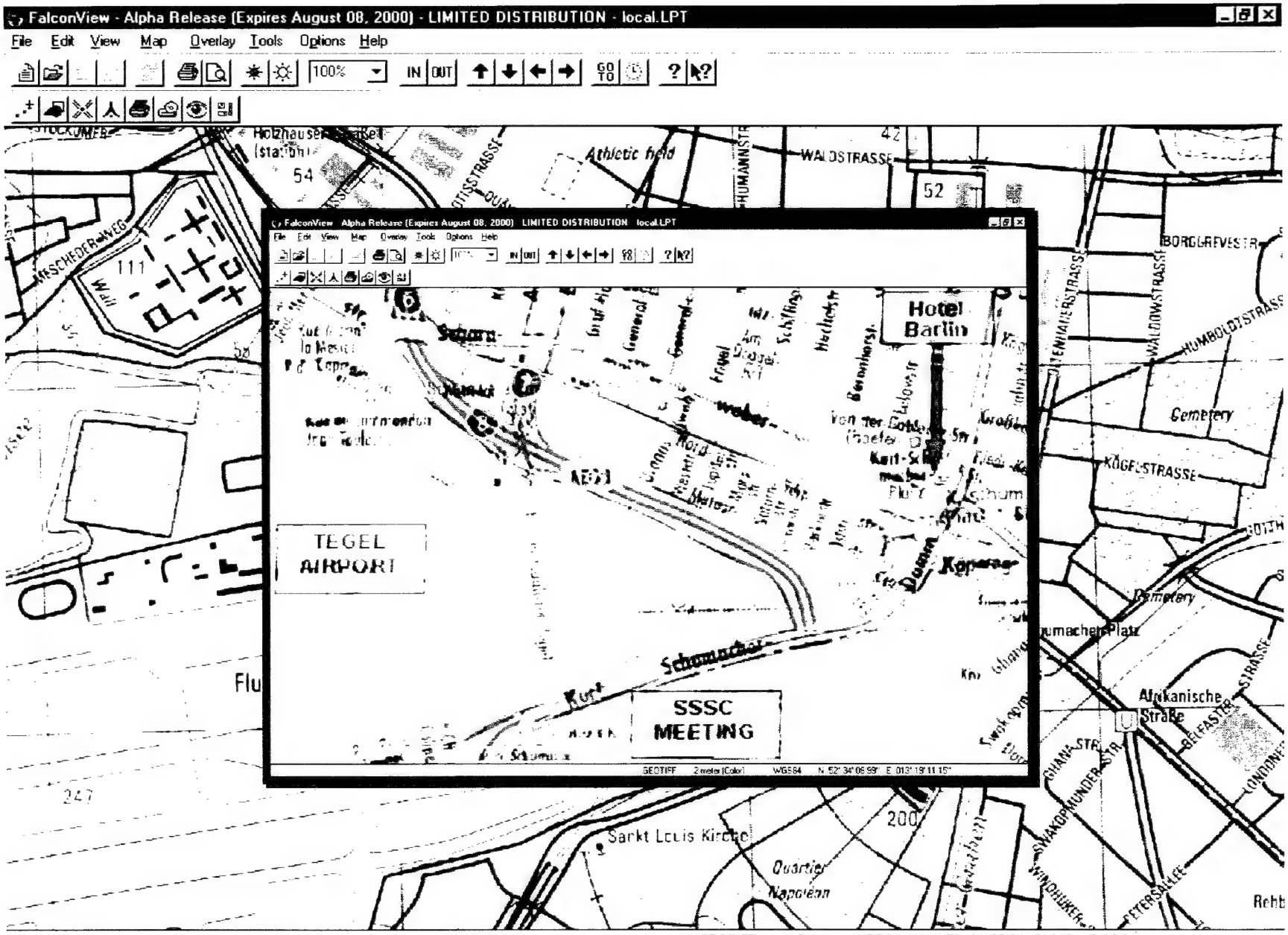
L-BAND SAR IMAGE MERGED WITH TOPOGRAPHY

INTERACTIVE DATA FUSION ANALYSIS TOOLS

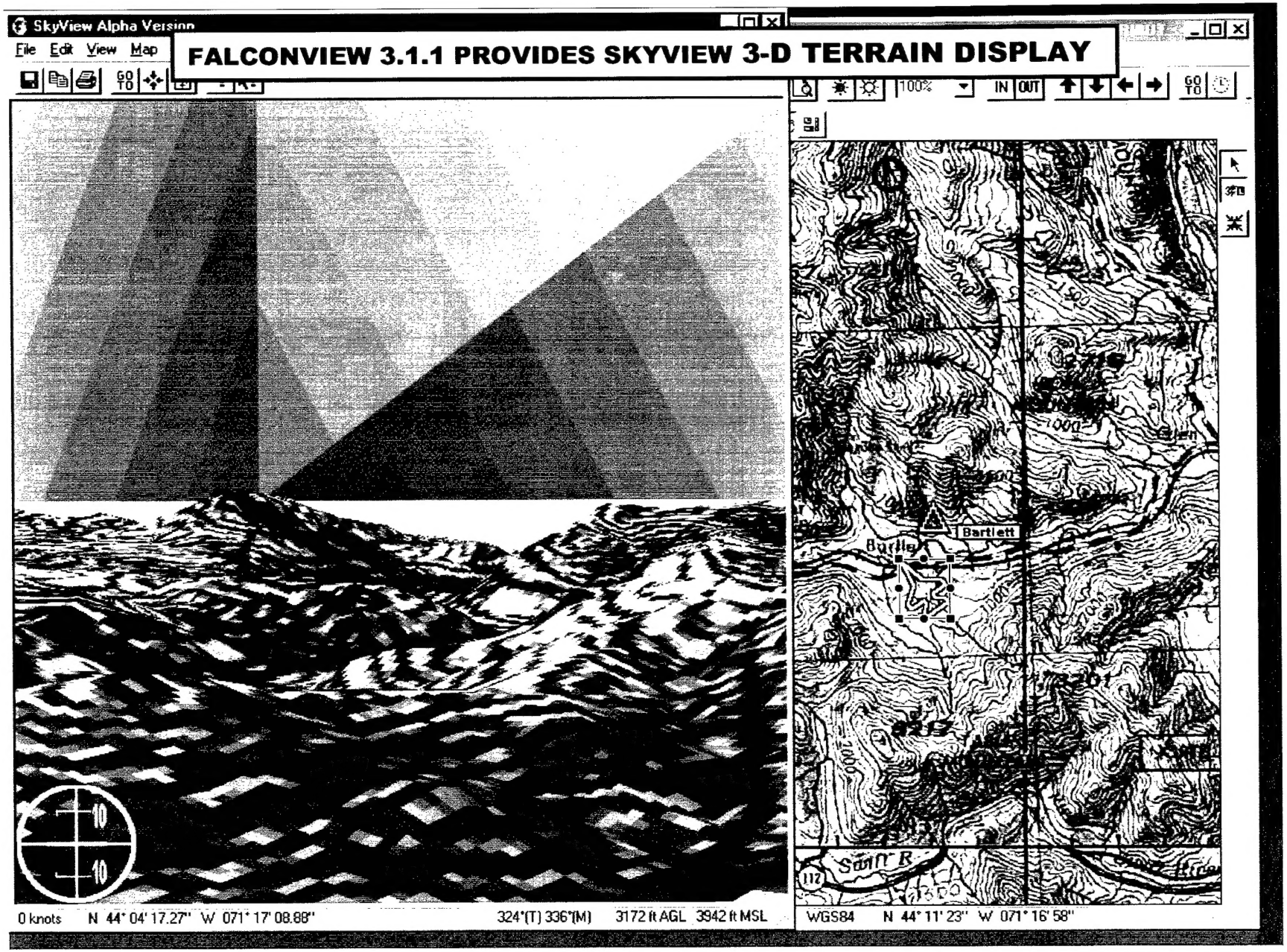
APY-6 SAR IMAGERY MERGED TO NAWCAD L-BAND MOSAIC


FalconView - Alpha Release (Expires August 08, 2000) - LIMITED DISTRIBUTION - local.LPT
File Edit View Map Overlay Tools Options Help
IN OUT
GO TO
TIROS 4 km WGS84 N 64° 12' 22" E 007° 04' 06"

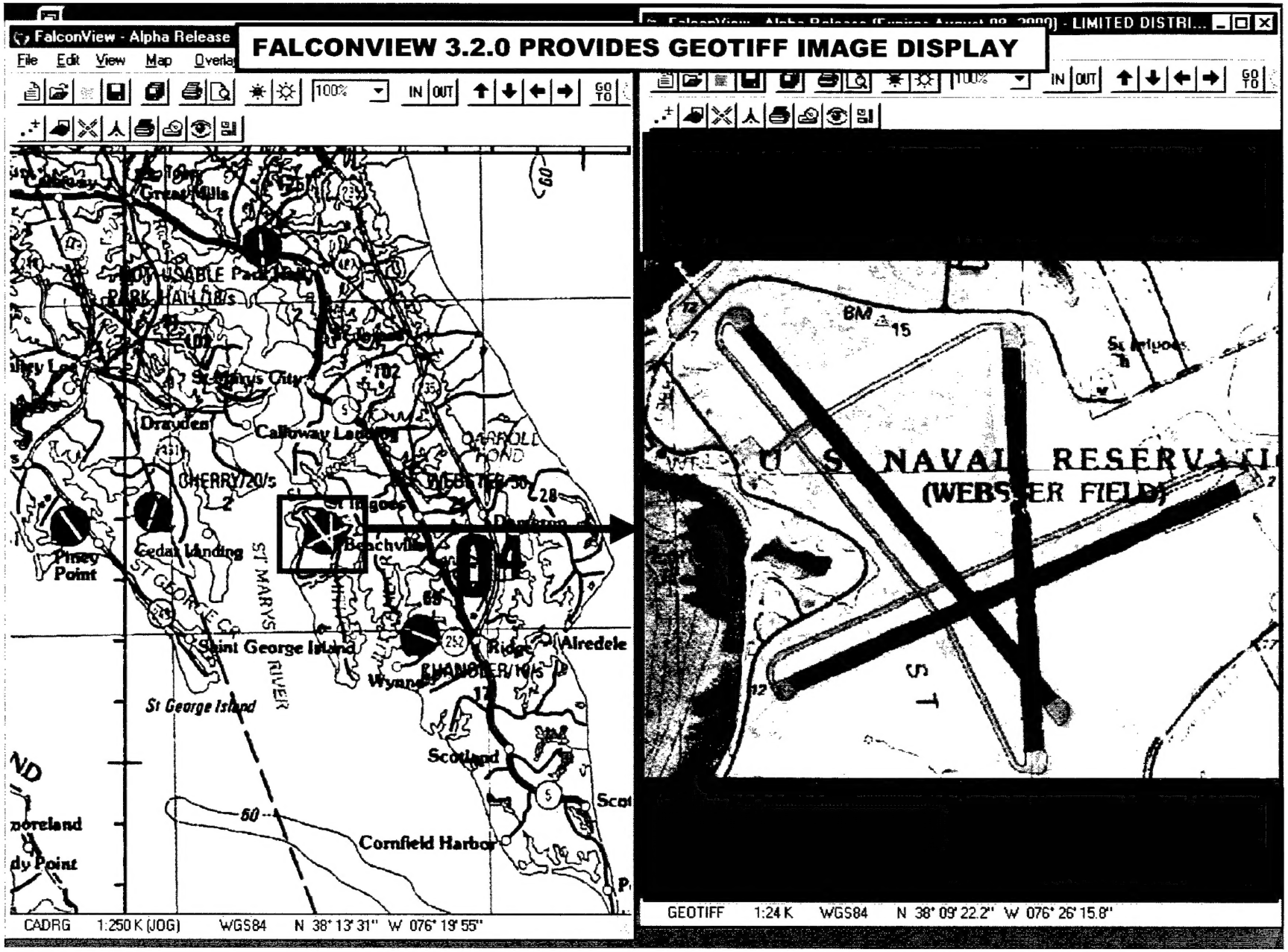

FalconView - Alpha Release (Expires August 08, 2000) - LIMITED DISTRIBUTION - local.LPT
File Edit View Map Overlay Tools Options Help
100%
IN OUT
LUDWIGSLUST EAST
MIROW
WITTSTOCK
TEMPLIN 2
TEMPLIN 1
NETZEBAND HIGHWAY STRIP
WITTENBERGE
GERMANY
NUROPPIN
NDB IEGELWEST
ORANIENBURG
PERWENITZ HIGHWAY STRIP
STENDAL
SCHONHAUSERDAMM
NDB GATOW
BRANDENBURG BRIEST
MAHLWINKEL
VOR DME HAVEL
MAGDEBURG
VORTAC-NDB HEHLINGEN
NDB REINSDORF
CHERSLEBEN
ZERBST
DESSAU
KOTHEN
WITTENBERG
ORANIENBAUM
THURLAND HIGHWAY STRIP
NDB MACKERN
JUTERBOG
SPERENBERG
HOLZDORF
FINSTERWALDE
NDB LIEBARS
FINOW
WERNEUCHEN
GATOW
SCHONEFELD
KLEIN KORIS
NUNSDORF
BRAND
LUCKAU
COTTBUS
WELZOW
PRESCHEN
PRESCHEN HIGHWAY STRIP
DREWITZ
ZIELONA GORA
BABIMO
KUNICE
NDB BUGK
NDB BEESKOW
NDB SLUBICE
FRANKFURT
NDB BERLIN/SCHONEFELD
VORTAC TEMPLEHOF
MARXWALDE
VORTAC TEGEL
STARGARD
STARGARD SZ
CHOJNA
NDB DREZDENKO
MIESZKOWICE HIGHWAY STRIP
GORZÓW
VOR DME-NDB FURSTENWALDE
DEMOCRATIC
REPUBLIC
POLAND
CADRG 1:2 M (JNC) WGS84 N 53° 20' 39" E 012° 59' 35"


FalconView - Alpha Release (Expires August 08, 2000) - LIMITED DISTRIBUTION - local.LPT
File Edit View Map Overlay Tools Options Help
100%
IN OUT
GO TO
Athletic field
WALDSTRASSE
HUMBOLDTSTRASSE
Cemetery
KÖGELSTRASSE
Hotel Berlin
TEGEL AIRPORT
SSSC MEETING
Schumacher
Kurt
Afrikanische Straße
Sankt Louis Kirche
Quartier Napoleon
GEOTIFF 1:24 K WGS84 N 52° 34' 35.9" E 013° 17' 30.9"

FALCONVIEW 3.1.1 PROVIDES SKYVIEW 3-D TERRAIN DISPLAY



FALCONVIEW 3.2.0 PROVIDES GEOTIFF IMAGE DISPLAY



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4.5 Avionics
THE PULSE OF NAVAL AVIATION

LARIAT

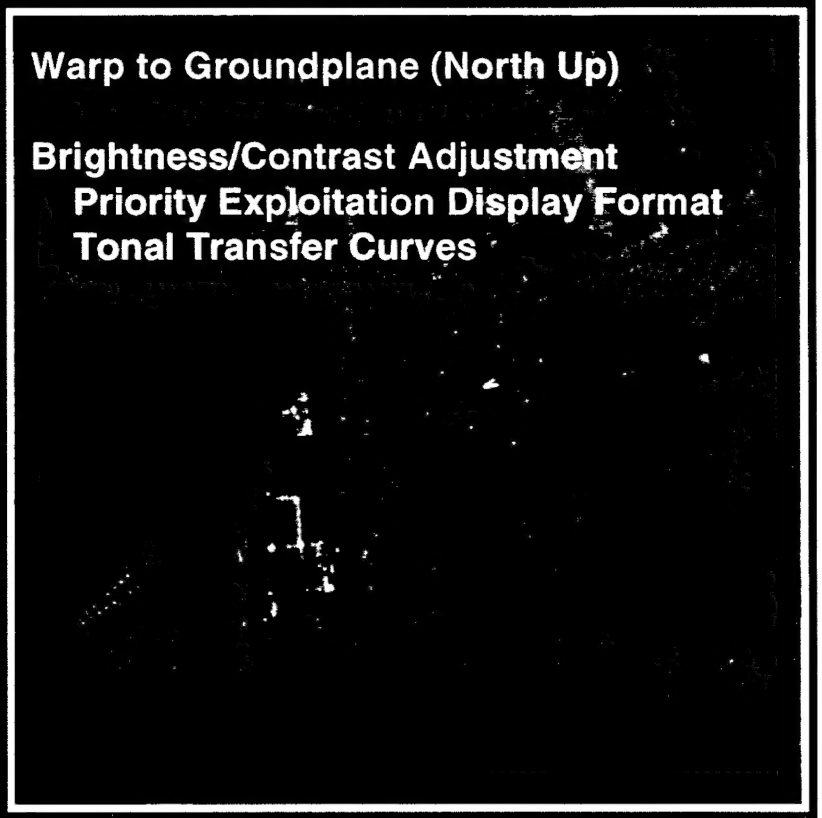
RESEARCH & ENGINEERING

Imagery Enhancement (OpenELT)

Raw Image File

Warp to Groundplane (North Up)

Brightness/Contrast Adjustment
Priority Exploitation Display Format
Tonal Transfer Curves



LARIAT Processed

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4.5 Avionics
THE PULSE OF NAVAL AVIATION

LARIAT

RESEARCH & ENGINEERING

LOW COST AIRBORNE RECONNAISSANCE IMAGERY ANALYSIS TOOL

- HIGH PERFORMANCE DATA FUSION
  - WARP, MERGE, SCALE, RECTIFY IMAGES TO MAPS
  - GEOCODING
  - IMAGE ENHANCEMENT
- INTEROPERABILITY
  - WINDOWS PC OPERATING SYSTEM
  - COTS AND GOTS SOFTWARE
- PORTABILITY
  - PC LAPTOPS
  - PC WORKSTATIONS

SUPPORT THE NAVY VISION FOR NETWORK CENTRIC WARFARE